

# PATENT COOPERATION TREATY


## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 01 DEC 2005

Applicant's or agent's file reference PA136036PCT		<b>FOR FURTHER ACTION</b>		WIPO See Form PCT/PEA/416	PCI
International application No. PCT/B2004/003188		International filing date (day/month/year) 30.09.2004		Priority date (day/month/year) 01.10.2003	
International Patent Classification (IPC) or national classification and IPC B65G43/06					
Applicant BARNARD, Hubert de Villiers					
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau) a total of 2 sheets, as follows:</p> <p><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input checked="" type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>					
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>					
Date of submission of the demand 29.07.2005			Date of completion of this report 30.11.2005		
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465			Authorized Officer  Sundqvist, S  Telephone No. +49 89 2399-2589		



# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/IB2004/003188

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## Box No. I Basis of the report

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
    - ☐ international search (under Rules 12.3 and 23.1(b))
    - ☐ publication of the international application (under Rule 12.4)
    - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

### Description, Pages

1-12 as originally filed

### Claims, Numbers

1-10 received on 31.08.2005 with letter of 31.08.2005

### Drawings, Sheets

1-7 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
  - ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☒ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - ☐ the description, pages
  - ☒ the claims, Nos. 8-10
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

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**Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:
- ☐ the entire international application,
  - ☒ claims Nos. 8-10 (partly)  
because:
    - ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):
    - ☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
    - ☒ the claims, or said claims Nos. 8-10 (partly) are so inadequately supported by the description that no meaningful opinion could be formed.
    - ☐ no international search report has been established for the said claims Nos.
    - ☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:
      - the written form ☐ has not been furnished
      - ☐ does not comply with the standard
      - the computer readable form ☐ has not been furnished
      - ☐ does not comply with the standard
    - ☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.
  - ☐ See separate sheet for further details

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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## Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

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### 1. Statement

Novelty (N)	Yes: Claims	1-7
	No: Claims	8-10
Inventive step (IS)	Yes: Claims	1-7
	No: Claims	8-10
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

### 2. Citations and explanations (Rule 70.7):

**see separate sheet**

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## Box No. VII Certain defects in the international application

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The following defects in the form or contents of the international application have been noted:

**see separate sheet**

**Re Item I**

1. The claims 8 to 10 evidently relate to the embodiment of Fig. 9 and 10. In the context of this embodiment, the application as originally filed does not disclose that the brake member in the second position is located between the belt and a roller supporting the belt. The amendment to claims 8 to 10 thus creates subject-matter which goes beyond the disclosure of the application as originally filed. The examination of claims 8 to 10 is thus based on the subject-matter of original claims 9-11.

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

2. The following documents are referred to in this communication:  
D1 : DE 10 45 321 B (SIEMAG MASCH STAHLBAU) 27 November 1958 (1958-11-27)  
D2 : GB 1 284 698 A (GOODYEAR) 9 August 1972 (1972-08-09)  
D3 : US 4 314 631 A (HAGERMAN ENOCH R ET AL) 9 February 1982 (1982-02-09)  
D4 : DE 296 11 306 U (RHEINISCHE BRAUNKOHLNW AG) 2 October 1996 (1996-10-02)  
D5 : SU 1 590 423 A (SYZRANSKIJ TURBOSTROITELNYJ Z ; LE I IM G V PLEKHANOVA (SU)) 7 September 1990 (1990-09-07)  
D6 : SU 1 467 005 A (SYZRANSKIJ TURBOSTROITELNYJ Z ; LE GORNY I IM G V PLECHANOVA (SU)) 23 March 1989 (1989-03-23)  
D7 : DE 827 177 C (HAUHINCO MASCHF) 7 January 1952 (1952-01-07)
3. INDEPENDENT CLAIM 1, DEPENDENT CLAIMS 2-7.

Document D1, which is considered to represent the most relevant state of the art, discloses (cf. column 1, line 54-column 3, line 27; figures 1-3) an apparatus from which the subject-matter of claim 1 differs in that the brake member in the second

position is located between the belt and the roller.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as to provide a braking member which does not interfere with the load carrying side of the belt.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT), since none of the cited documents discloses belt braking by inserting an element between the belt and the roller.

Claims 2 to 7 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

#### **4. INDEPENDENT CLAIM 8**

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 8 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (references as above):

- A conveyer belt braking apparatus comprising:
- a brake member (4a) mountable adjacent the return path (13) of a conveyer belt and movable relative to the conveyer belt between a first, inoperative position adjacent the return path of the belt and a second, braking position in which the brake member engages the belt frictionally; and
- an operating mechanism (14, 15) responsive to a belt breakage to move the brake member from the first position to the second, braking position thereof.

Also D2 (cf. figure 2) discloses the subject-matter of claim 9, assuming that the return path begins about where the belt-engaging surface (32) is located.



**5. DEPENDENT CLAIMS 9, 10**

Dependent claims 9 and 10 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

The belt-engaging surface (32) of the D2 apparatus could be considered the plate of claim 9.

According to claim 10 the linkage connects the brake member to a brake member of a braking apparatus in accordance with any of claims 1 to 8 (should be 7). It is thus a link to novel and inventive subject-matter. However, since neither the link nor the linkage is directly to the novel feature of claim 1, and since D1 discloses the linking of brake members, the reference to claims 1 to 7 is not sufficient for rendering inventive the product of claims 9 to 10 as such.

**Re Item VII.**

6. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the cited documents (D1 being the most pertinent document) is not mentioned in the description, nor is any of these documents identified therein.
7. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
8. The claim references in claims 9 and 10 are incorrect.

**CLAIMS**

1. Conveyer belt braking apparatus comprising:

an idler roller rotatable about an axle;

a brake member mounted adjacent the idler roller and movable relative to the roller between a first, inoperative position adjacent a belt supported by the roller and a second, braking position against the belt, between the belt and the roller; and

an operating mechanism arranged to sense the direction of rotation of the roller and to move the brake member from the first, inoperative position to the second, braking position when the direction of rotation of the roller reverses in use.

2. Conveyer belt braking apparatus according to claim 1 wherein the brake member is a plate mounted parallel to the roller and pivotable between the first and second positions.
3. Conveyer belt braking apparatus according to claim 2 wherein the plate is pivotable about an axis that coincides substantially with the axle of the roller.
4. Conveyer belt braking apparatus according to claim 3 wherein the plate is connected to a shaft that extends through a bore in the axle of the idler roller, the shaft being rotatable relative to the axle, with a one-way clutch mechanism within the body of the idler roller fixed to the shaft and to the body of the roller, so that the roller can rotate freely relative to the shaft in a forward direction but, when the roller rotates in a reverse direction, the clutch engages, causing the shaft to rotate and to move the brake member from the first, inoperative position to the second, braking position thereof.
5. Conveyer belt braking apparatus according to claim 3 wherein the plate is connected to a sleeve fitted about the axle, the sleeve being rotatable relative to the axle, with a one-way clutch mechanism within the body of the idler roller fixed to the sleeve and to the body of the roller, so that the roller can rotate freely relative to the sleeve in a forward direction but, when the roller

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rotates in a reverse direction, the clutch engages, causing the sleeve to rotate and to move the brake member from the first, inoperative position to the second, braking position thereof.

6. Conveyer belt braking apparatus according to any one of claims 1 to 5 including at least one locking member associated with the idler roller and arranged to engage the brake member and to hold the brake member in the second, braking position thereof when the brake member moves from the first, inoperative position thereof to the second, braking position thereof.
7. Conveyer belt braking apparatus according to claim 6 wherein said at least one locking member comprises a bracket fixable to the axle of the roller and having a projection that engages a portion of the brake member when the brake member moves to the second, braking position thereof.
8. Conveyer belt braking apparatus comprising:
  - a brake member mountable adjacent the return path of a conveyer belt and movable relative to the conveyer belt between a first, inoperative position adjacent the return path of the belt and a second, braking position, between the belt and a roller supporting the belt, in which the brake member engages the belt frictionally; and
  - an operating mechanism responsive to a belt breakage to move the brake member from the first position to the second, braking position thereof.
9. Conveyer belt braking apparatus according to claim 9 wherein the brake member is a plate mounted adjacent and transverse to the return path of the conveyer belt, the brake member being pivotable between the first and second positions.
10. Conveyer belt braking apparatus according to claim 9 or claim 10 wherein the operating mechanism is a linkage connecting the brake member to a brake member of a conveyer belt braking apparatus according to any one of claims 1 to 8.

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